1. You are the duty consultant in charge of an urban ED. A 55 year old gentleman is brought to your resuscitation bay after being rescued after the gas from a barbeque exploded in his face. His estimated weight is 80 kg.

a) What clinical signs and symptoms would you actively look for in this patient? (2.5 marks)

- Facial or oral burns
- Singed nasal hairs
- Singed eyebrows/eyelashes
- Signs of other trauma
- Oedema (lips, laryngeal, facial etc.)
- Tachypnoea
- Wheeze
- Stridor

b) List 5 investigations you would perform in this patient (2.5 marks)

- Carboxyhaemoglobin level
- UEC
- Glucose
- Blood Gas analysis
- Creatinine Kinase
- CXR
- ECG

c) On exposure of the patient you estimate he has sustained **10%** deep dermal burns.
Calculate this patient's fluid requirements in the first 8 hours (1 marks)

Total fluid based on Parkland formula (Hartmann's solution) = 4ml x 80kg x 10% = 3.2 L fluid.
Therefore, give 1.6 L over first 8 hours.

d) List 8 criteria requiring transfer to a specialised burns unit (4 marks)

- Mid to deep dermal burns in adults >10% TBSA (total body surface area)
- Full thickness burns in adults >5% TBSA
- Mid-dermal, deep dermal or full thickness burns in children >5% TBSA
- Burns to the face, hands, feet, genitalia, perineum and major joints
- Chemical burns
- Electrical burns including lightning injuries
- Burns with concomitant trauma
- Burns with associated inhalation injury
- Circumferential burns of the limbs or chest
- Burns in patients with pre-existing medical conditions that could adversely affect patient care and outcome
- Suspected non-accidental injury including children, assault or self-inflicted
- Pregnancy with cutaneous burns
- Burns at the extremes of age – infants and frail elderly

2. A 70 kg 26 year old man is involved in a house fire in an enclosed room. He has burns to the whole of his head, the ventral aspects of both arms and 3% on his chest.

a. What are the signs that would alert you to an airway problem in this patient? (4 marks)

- *Singed nasal hair*
- *carbonaceous sputum*
- *facial burns*
- *hoarse voice or stridor*

b. Calculate the % body surface area of the burn (1 mark)

- *Using rule of nine's 9 (head) + 9 (both arms) + 3 = 21%*

c. What fluid would you chart (type and amount) each hour for the first 8 hours – show your calculation? (3 marks)

- *4 x 21 x 70 = 5880 ml*
- *Give 2940 ml over 8 hours*
- *Approx 367ml/ h of Hartmanns*

d. What analgesia would you give and by what route? (1 mark)

- *5-20 mg of intravenous morphine by 5mg titrated dose for pain and response*

NB reasonable alternatives eg iv or intranasal fentanyl with correct dose for the route

e. What would you aim his urine output to be? (1 mark)

- *>35 ml/hr*

3. A patient presents to the emergency department after sustaining multiple lacerations to the sole of the foot from oyster shells after walking on the beach. You wish to perform a regional block to the plantar aspect of the foot.

a. Name the 3 nerves involved and their cutaneous distribution (3 marks)

- *posterior tibial – most of the sole and heel*
- *sural – posterolateral sole*
- *saphenous – small area, medially over arch*

b. Where would you insert LA to anaesthetise these regions (3 marks)

- *posterior tibial – upper border of medial malleolus, between posterior tibial artery and Achilles tendon*
- *sural – fanlike distribution, superficial, lateral to Achilles tendon*
- *saphenous – superficially, between medial malleolus and tibialis anterior tendon*

c. What other issues must be addressed in the treatment of this injury prior at discharge (4 marks)

- *infection prophylaxis – skin commensals, vibrio eg doxyclycline if not pregnant*
- *tetanus update*
- *aftercare and follow up advice*
- *documentation, certificates for work etc*